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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/712,523

11/12/2003

Robert Fu

TRAN-P196

8679

7590 03/08/2007  
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EXAMINER

MONDT, JOHANNES P

ART UNIT

PAPER NUMBER

3663

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/08/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

**Application No.**

10/712,523

**Applicant(s)**

FU ET AL.

**Examiner**

Johannes P. Mondt

**Art Unit**

3663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

Amendment filed 12/4/06 forms the basis for this office action. In said Amendment Applicant substantially amended claims 1-8. Claims 9-20 are cancelled. Comments on Remarks are included below under "Response to Arguments".

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the first and second switched terminals should be explicitly shown in Figure 3 (Figure for the elected Species), together and distinct from first and second inputs as claimed (claim 1) or the features canceled from the claims. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New

Art Unit: 3663

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. ***Claims 1-8*** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In particular, the claimed first and second inputs are indistinguishable yet distinctly claimed from first and second "switched terminals", yet are, based on specification with drawings, not distinct therefrom, because said inputs are "for controlling" and hence must having controls, hence switching capability.

However, only one connection exists between the substrate and said switch.

The present claim language thus renders the meanings of "input for controlling" and the implied switched terminal couplings to coincide at least in the case of the connection to the substrate. Parenthetically, the explanation of what is meant by "coupling" in the Specification does not remedy this apparent indefiniteness since no other material coupling appears to exist other than through electrical lines.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3663

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claim 1** is rejected under 35 U.S.C. 103(a) as being unpatentable over Lai et al (6,791,146 B2) in view of Mergens et al (6,803,633).

This rejection is provided to the best of examiner's understanding despite the noted indefiniteness on what is comprised in the notion "switched terminal", particularly assuming any input line to a switch to have a "switched terminal".

*Lai et al teach* a switch capable of regulating electric potential in a substrate of integrated circuit, comprising:

a first input 372 (col. 4, l. 29) coupled to an N-well (input to switch 370 from 318, 318 being a portion of N-well 312 as it has the same conductivity type as said N-well) (col. 4, l. 5-50);

a second input coupled to a substrate bias supply line 374 (col. 5, l. 9);

a first switched terminal coupled to control circuit 380 (col. 5, l. 2);

a second switched terminal of said switch coupled to said substrate bias supply line, within said switch so as to switch to or from input 374 (see assumption by examiner); and

an output terminal (of 372) coupled to a P-type substrate through portion 320 thereof (320 and 300 having first type conductivity, which is P-type conductivity (col. 4, l. 5-20)).

*Lai et al do not necessarily teach the limitation* that said first switched terminal is coupled to ground. However, it would have been obvious to include this limitation in

Art Unit: 3663

view of Mergens et al, teaching control circuit to be used in electrostatic discharge protection (title, abstract (hence analogous art) to couple between supply line and ground (abstract and claims 8, 13, 15 and 16). Implementation of this coupling capability of the control circuit provides coupling to ground through the control circuit. Motivation at least derives from the advantage that the system can be switched off in a harmless and cost efficient voltage setting.

*On claim 2:* because said bias voltage line is separate from the connection to the control circuit the claim limitation is met.

*On claim 3:* said switch is operable to electrically couple to said P-type substrate because of the substrate bias supply line 372. By definition, a substrate bias voltage is present on said substrate bias supply line.

*On claim 4:* the switch further comprises a third control input for controlling said switch coupled to a second N-well bias supply line 350 (col. 4, l. 28).

*On claim 5:* said switch is operable to electrically couple said P-type substrate to said ground because of the existence of supply line 372. By definition, a substrate bias voltage is present on said substrate bias supply line.

Furthermore, In reference to the claim language referring to "is operable to electrically couple", intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as

Art Unit: 3663

compared to the prior art. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963).

*On claim 6:* said switch is operable to electrically couple said P-type substrate to said substrate bias supply line because the electrical coupling between said P-type substrate and said bias supply line is an inherent functional aspect of said substrate bias supply line. By definition, a substrate bias voltage is present on said substrate bias supply line.

Furthermore, In reference to the claim language referring to "is operable to electrically couple", intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto, 136 USPQ 458, 459 (CCPA 1963).

*On claim 7:* said switch is operable to electrically couple said P-type substrate to said substrate bias supply line because the electrical coupling between said P-type substrate and said bias supply line is an inherent functional aspect of said substrate bias supply line. Because 374 and 372 are independent connections to switch 370 this does not depend on whether the bias voltage on said N-well bias line is the value of ground, i.e., zero, or non-zero.

Furthermore, In reference to the claim language referring to "is operable to electrically couple", intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto , 136 USPQ 458, 459 (CCPA 1963).

*On claim 8:* Because said switch 370 is connected, in the combined invention, to control circuit that can switch to ground (see claim 1), said switch is operable to electrically couple said P-type substrate to said ground. By definition, a substrate bias voltage is present on said substrate bias supply line. Because N-well bias supply line 374 is independent of substrate bias supply line this capability does not depend on the specific value of the voltage on the N-well bias line.

Furthermore, In reference to the claim language referring to "is operable to electrically couple", intended use and other types of functional language must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto , 136 USPQ 458, 459 (CCPA 1963).

### ***Response to Arguments***

Applicant's arguments filed 12/04/06 have been fully considered but they are not persuasive. In particular, the claim language appears to identify the first and second inputs and first and second switched terminals to at least partly coincide as explained under 35 USC 112, second paragraph.

Furthermore, although the amendment overcomes the rejections previously provided new art is cited based on the substantially amended claim language at the earliest time possible.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 3663

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johannes P. Mondt whose telephone number is 571-272-1919. The examiner can normally be reached on 8:00 - 18:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack W. Keith can be reached on 571-272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JPM  
March 5, 2007

Primary Examiner:



Johannes Mondt (TC3600, AU: 3663)